

CLAIMS APPENDIX

Claims 1-22 (Cancelled)

23. A method of transfecting antigen presenting cells, the steps comprising selecting a gene delivery complex that targets antigen presenting cells, comprising DNA and one or more compounds selected from the group consisting of sugars, polyethylenimine, and polyethylenimine derivatives, and applying the complex to the skin or mucosa surfaces of an animal, wherein said DNA comprises a nucleic acid sequence encoding at least one immunogenic protein operatively linked to a promoter.

24. The method of Claim 23, wherein the compound is selected from the group consisting of glucose and polyethylenimine derivatives.

25. The method of Claim 24, wherein the polyethyleneimine derivative targets the mannose receptor found on the surface of antigen presenting cells.

26. The method of Claim 25, wherein the derivative is mannosylated polyethylenimine.

27. (Cancelled).

28. The method of Claim 23, wherein the complex is electrostatically neutral.

29. (Cancelled)

30. The method of Claim 28, wherein the complex comprises a 5:1 ratio of polyethylenimine derivative nitrogen per DNA phosphate.

31. The method of Claim 23, wherein the gene delivery complex is formulated in a glucose solution.

32. The method of Claim 31, wherein the glucose solution is 5-10% glucose.

33. The method of Claim 32, wherein the glucose solution is 8% glucose.

34. (Cancelled)

35. The method of Claim 23, further comprising one or more steps selected from the group consisting of receptor stimulation, toxin activation, tissue injury and cell injury.
36. (Cancelled)
37. The method of Claim 23, wherein the protein is from a human immunodeficiency virus.
38. The method of Claim 37, wherein the human immunodeficiency virus is replication-defective.
39. The method of Claim 38, wherein the human immunodeficiency virus is integration-defective.
40. The method of Claim 23, wherein the DNA is a plasmid.
41. The method of Claim 23, wherein the cells are Langerhans cells.
42. The method of Claim 29, wherein the complex comprises a 3:1 ratio of polyethylenimine nitrogen per DNA phosphate.
43. The method of Claim 25, wherein the derivative is a sugar-modified polyethylenimine.